

REMARKS

In the Office Action, the Examiner restricted the claims as follows:

- Species I. Claims drawn to Fig. 1
- Species II. Claims drawn to Fig. 2.
- Species III: Claims drawn to Fig.3
- Species IV Claims drawn to Fig. 4
- Species V Claims drawn to Fig. 5
- Species VI: Claims drawn to Figs. 6A, 6B
- Species VII Claims drawn to Fig. 8

For the reasons set forth below, Applicants assert that there are claims generic to a group of figures. As required under 37 CFR 1.143, to complete the response, Applicants have elected for examination the claims drawn to fig. 5 (Species V), including claims generic to Figs. 4 and 5, claims 8, 9, 10, 13 and 14-16, and claims drawn to Fig. 5, claims 11, 12, and 24-30.

Claim 8 claims an optical switching/routing system comprising:
a polarization separating sub-system;
the polarization separating sub-system being capable of separating an input optical beam into a first optical beam of a first polarization and a second optical beam of a second polarization, the second polarization being distinct from the first polarization, and emitting a first emitted optical beam of a third polarization and a second emitted optical beam of the third polarization, the emitted first and emitted second optical beams constituting an input channel of the third polarization;

a polarization recombining sub-system; and,

a grating based selectable switching/routing sub-system including at least one pixilated switchable component, the selectable switching and routing sub-system being interposed optically between the polarization separating sub-system and the polarization recombining sub-system; and;

the selectable switching/routing sub-system being capable of switching/routing the input channel to an output channel of a fourth polarization, the output channel constituting a pair of output beams of the fourth polarization;

the polarization recombining subsystem being capable of recombining the pair of output beams of the fourth polarization into a final output beam of combined polarization.

Fig. 5 shows a polarization separating sub-system 175, 180, 150, a polarization recombining sub-system 160, 185, 190, and a selectable switching/routing sub-system 120. Thus, all the above claimed elements are found in Fig. 5.

Claim 9 claims the optical switching/routing system of claim 8 wherein the polarization separating sub-system comprises a polarization splitter (175, 180, Fig. 5) and a patterned polarization converter (150, Fig. 5).

Claim 10 claims the optical switching/routing system of claim 8 wherein the polarization recombining sub-system comprises a patterned polarization converter (160, Fig. 5) and a polarization combiner (185, 190).

Claims 11 and 12, which depend respectively on claim 9 and claim 10, claim the embodiment of Fig. 5, which uses a pair of polarization splitting gratings as a polarization splitter or a polarization combiner.

Claims 13-16 describe the state of polarization (s or p) as shown in Figures 5 or 4.

Claims 24-26 claim a polarization separating/combinig system comprising a pair of polarization sensitive gratings as shown in Fig. 5.

Applicants respectfully assert that, upon selecting claims drawn to Fig. 5 (Species V, the claims generic to both Fig. 4 and Fig. 5, claims 8, 9, 10, 13 and 14-16, 11, 12, and 24-30 should also be examined.

Although no fees are required, charge any underpayment of fees to or credit any overpayment of fees to Deposit Account No. 50-1078.

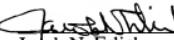
In accordance with Section 714.01 of the M.P.E.P., the following information is presented in the event that a call may be deemed desirable by the Examiner:

JACOB ERLICH (617) 854-4000

Dated: April 20, 2005

Respectfully submitted,
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